Focus...Missouri Regional Socio-Economic Rankings: 1990-2000

Data from the decennial Census gives researchers the opportunity to analyze trends and patterns on a consistent basis. It allows us to see how geographies both large and small change and how they stay the same over the passage of time. One area of interest is to compare and evaluate the social and economic well being of the state at the regional level. This paper takes four indicators of socio-economic status from Census 2000 and ranks the various regions and counties of the state. It also compares how these regions have changed socio-economically since the 1990 Census.

The socio-economic rankings detailed in this paper use four statistical indicators. They are:
1. Poverty Rate—Percent of persons that fall below the poverty threshold guidelines established by the Census Bureau.
2. Professionals/Management—Percent of employed persons that have professional or managerial jobs as defined by the Census Bureau.
3. High School Education—Percent of persons 18 and older that have less than a high school diploma.
4. Unemployment Rate—Percent of persons 16 and over that are currently seeking work yet are unemployed.

For indicators 1, 3 and 4 a lower value would indicate a better socio-economic ranking. Conversely, for indicator 2 (percent professionals) a high value indicates a better ranking. This study

used regional planning commissions (RPCs) as the primary geographic unit of interest. Counties are the building blocks for the RPCs. An ordinal ranking for each of the 19 RPCs was assigned for each of the four Census indicators. The sum of the four ordinals was calculated and the RPCs were then sorted based on this total. The RPC with the lowest summed total was ranked first and so forth. Table 1 shows for 1990 and 2000 the individual component rates and ranks for each of the socio-economic variables and the overall summary rank for each RPC.

Statewide, Missouri improved in all four socio-economic indicators (see Table 1). The percent of professionals/managers showed the most improvement increasing by 30% (24.2 to 31.5%). The number of persons without a high school diploma also showed a large improvement dropping by 24%. This makes intuitive sense as societal norms regarding education in Missouri have changed dramatically since early in the 20th century. As time progresses people from this time period continually become a smaller percent of the total population due to mortality. Finally, Missouri's poverty and unemployment rates each dropped by 14%. Overall, the socio-economic gains were not limited in geography as every region of the state showed some level of improvement in three of the four components of the study and nearly every region showed improvement in the fourth component (unemployment rate).

Three Missouri metro areas claimed the top rankings by region. Mid-Missouri RPC, which includes Columbia and Jefferson City, ranked as the top region using the summed ordinal method described above. This region has consistently ranked as the top RPC over the last twenty years. For Census 2000, the region ranked first both in percent of professionals/managers and percent with a high school diploma and second in terms of lowest percent unemployed. The region ranked fifth in terms of lowest percent of persons in poverty. This region benefits from the presence of the University of Missouri-Columbia, among other institutions of higher learning, located in the area. As a general rule better educational systems lead to higher rankings across all four socio-economic indicators. One caveat to that rule would be the poverty rate. College age populations do not usually have a large income and thus are more prone to short term poverty. This trend can be detected in Table 1 in comparing Columbia's poverty rate to the rest of the region (19.2% to 8.7%).

The two major metro regions in the state take up spots 2 and 3 on the chart. The Mid-America RPC, consisting of Kansas City and its major Missouri suburbs, ranked second while the East-West Gateway RPC (St. Louis City and County, St. Charles, Franklin and Jefferson Counties) finished third. These two regions swapped places from their 1990 rankings. This switch occurred largely due to the unemployment factor. Mid-America RPC improved in rank from 7th to 4th over the ten-year period for this indicator while East-West Gateway plummeted from 6th to 12th. Both RPCs showed little change in rank in the other categories.

Another interesting development out of the 2000 rankings was the sharp decline in placement for two of the minor-metro areas. Southwest Missouri RPC, including Springfield, declined from 4th to a tie for 9th while the Joplin-anchored and newly renamed Harry S Truman RPC (formerly Ozark Gateway) fell from a tie for 7th to 14th. Here again unemployment was the major player in affecting the change. Southwest Missouri RPC dropped from 5th to 14th while the Harry S Truman RPC saw their unemployment rank drop from 4th to 15th.

Both regions' other rankings saw only very modest declines of one or two spots.

It is important to note that this type of rank analysis is a zero sum game. For every region that moves up the charts another region has to fall down. As Table 1 indicates, East-West Gateway, Southwest Missouri, and Harry S Truman RPCs all had basically static or unchanged unemployment rates. However the state unemployment rate dropped nearly a full point. Further analysis, hence, shows that non-metro regions (see bottom of Table 1) saw the sharpest declines in unemployment (7.1% to 5.4%).

Green Hills RPC had the largest advance up the overall rankings, due in part to an improvement in placement of the previously discussed percent unemployed. This block of eleven rural counties in the north central part of the state moved from 11th in 1990 to 7th in 2000 in the overall socio-economic rankings. The region ranked first among all RPCs in terms of percent of persons unemployed (3.9%), up from a ranking of third (5.6%) in 1990. The largest improvement for this region came in relation to the number of jobs that were professional or management in nature. In 1990, 16.9% of all jobs in Green Hills RPC were of this kind, good for a rank of only 16 (out of 19 regions). In 2000 the percent of professionals increased to 27.0%, boosting Green Hills up eight spots for a placement of 8th for that indicator. Education and poverty rankings for Green Hills RPC were virtually unchanged between 1990 and 2000.
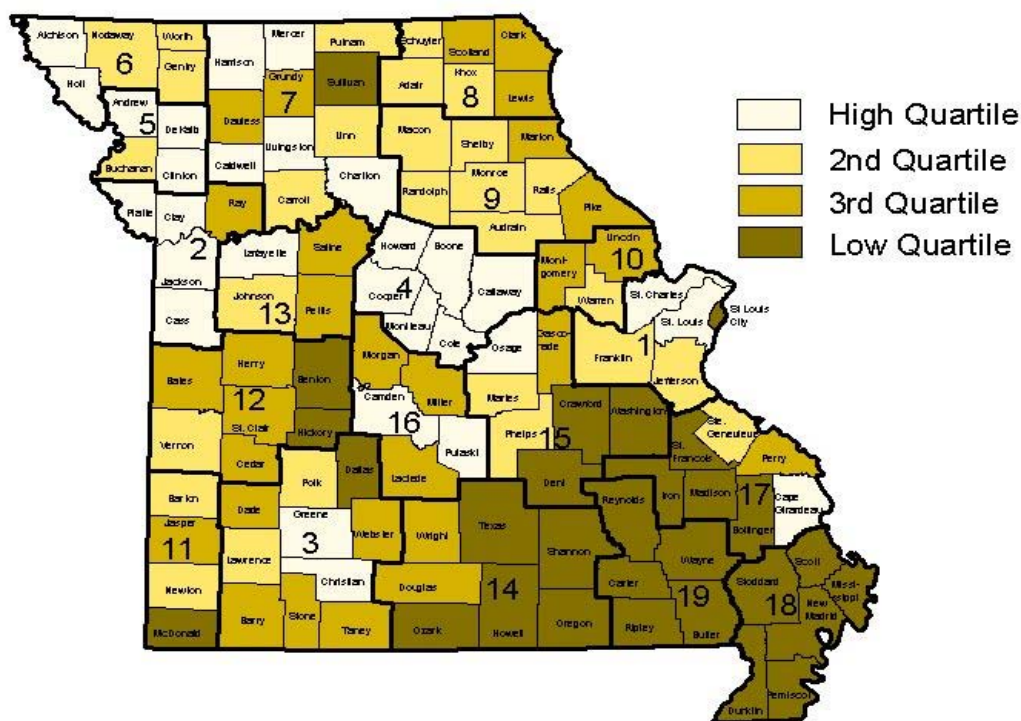
While there was some movement near the top of the rankings and much fluctuation in the middle, there was no change among the bottom five regions. These five RPCs all came from the southern half of the state, with the lowest three rankings coming from the southeast section. The Bootheel RPC ranked last overall. Moreover, it ranked last or next to last in all four indicators. This six county region in the extreme southeast corner of the state has historically been one of the poorest regions in Missouri. It is worth noting that for the Bootheel RPC all four socio-economic indicators used in this study showed improvements (e.g. persons in poverty dropped from 25.9% to

21.2%). Other regions, however, improved by similar levels leaving the Bootheel RPC in the same position relative to other regions in the state.

Map 1 shows the application of the same analysis as was done for the RPCs at the county level. The counties were ranked 1 to 115 for each of the four categories and then the summed scores were calculated and the counties ranked. The counties are categorized into quartiles (i.e. the top 25% of all counties are colored in the lightest shade).

As a general rule and as Map 1 illustrates, one can say that socio-economically Missourians are more affluent in the north and central portions and less affluent in the south and southeast areas. Only one county in the bottom quarter of the rankings lies north of the Missouri River (Sullivan County). Likewise in the southeast regions only Cape Girardeau County ranks in the top quarter socio-economically. In fact, as Map 1 shows, nearly all of the southeast counties rank in the bottom quarter of all Missouri counties.

Map 1
Socio-Economic Ranking by
Missouri County: 2000 Census

1- East-West Gateway
2- Mid-America
3- Southwest Missouri
4- Mid-Missouri
5- Mo-Kan
6- Northwest Missouri
7- Green Hills
8- Northeast Missouri
9- Mark Twain
10- Boonslick

11- Harry S Truman
12- Kaysinger Basin
13- Pioneer Trails
14- South Central Ozark
15- Meramec
16- Lake of the Ozark
17- Southeast Missouri
18- Bootheel
19- Ozark Foothills

Another trend seen in the map and table is that metro counties generally rank higher than their rural counterparts. The eight highest ranked counties in this study are all part of RPCs with a metropolitan city. Breaking urban areas down further, suburban regions outside the city core rank highest of all. This trend can be seen in comparing the city averages to the rest of the metro regions in Table 1.

Platte County, in the Mid-America RPC, ranked highest among all counties using the summed ordinals ranking. This suburban northwest Missouri county also ranked first using 1990 data. Platte placed in the top three counties for all four indicators in 2000, including finishing first in terms of lowest percent of persons with less than a high school diploma (10%). As a point of reference, Platte was the only county to rank in the top ten in all four socio-economic categories.

As was mentioned earlier, the central part of the state did exceptionally well in this study. All six counties that make up the Mid-Missouri RPC ranked in the top quartile in overall socio-economic status. They were the only RPC to have this distinction. Cole County, where Jefferson City is located, had the highest ranking within this region finishing sixth overall among all 115 counties.

Statistics show that there is not a lot of change from one Census to the next relative to these four socio-economic indicators. Spearman's correlation coefficient for ranked observations returns a value of .91 in comparing RPC ranks between 1990 and 2000 Census. The square of the correlation coefficient (r-squared) was 83 percent. Thus one can say that 83 percent of the variation in the 2000 RPC rankings can be explained by the 1990 RPC rankings. Table 2 shows the correlation values for the individual socio-economic indicators as well as the overall rankings. As you would expect all tests showed significant correlation between 1990 and 2000. However, the most variation (or least correlation) of the four indicators was the unemployment rankings (r^2=38 percent). All other indicators had r-squared values above 80 percent.

Overall, the same patterns observed in the 1990 Census are present in 2000. The two primary trends are that northern Missouri ranks higher than southern Missouri and urban Missouri ranks higher than rural Missouri. Some changes in the employment sector caused some of the minor metro areas to fall down the list behind some rural regions in the overall rankings. Mid-Missouri RPC maintained the top spot in the regional rankings while the Bootheel RPC and other southeast RPCs continued to rank at the bottom. Statewide each socio-economic indicator moved in a progressive direction. These improvements were seen almost across the board for every region and every county. Unemployment showed the most variance, with the rate for some counties remaining static whereas other counties, primarily rural in nature, showed marked improvement.

Table 2: Spearman's Corrleation Coefficient for Ranked Observations and R-Square for Overall and Individual Socio-Economic Indicators: Missouri 1990 and 2000 RPC Rankings

	Correlation Coefficient	R-Squared	P-Value
Summed Ordinals	0.9095	0.8272	<.0001
Poverty	0.956	0.914	<.0001
Professional/Manager	0.912	0.831	<.0001
< High School Diploma	0.977	0.955	<.0001
Unemployment	0.619	0.383	0.0048

Provisional Vital Statistics for December 2002

Live births increased in December as 6,890 Missouri babies were born compared with 6,177 in December 2001. Cumulative births for January-December show a slight decrease from 75,290 to 75,167, the lowest since 1997.

Deaths increased in December as 4,879 Missourians died compared with 3,670 one year earlier. Cumulative deaths for January-December increased by 1.9 percent from 54,601 to 55,636.

The **Natural increase** in December was 2,011 (6,890 births minus 4,879 deaths). The 2002 natural increase of 19,531 is the lowest since 1995.

Marriages decreased in 2002 to the lowest level since 1965 as 41,552 Missouri couples married compared with 42,086 in 2001.

Dissolutions of marriage decreased to the lowest level since 1974 as 22,593 Missouri couples divorced compared with 23,458 in 2001.

Infant deaths increased in December and for the entire year. The 2002 Missouri infant death rate of 8.5 per 1,000 live births is the highest since 1992.

PROVISIONAL RESIDENT VITAL STATISTICS FOR THE STATE OF MISSOURI

Item	December				12 months ending with December									
	Number		Rate*		Number				Rate*					
	2001	2002	2001	2002	1999	2000	2001	2002	1998	1999	2000	2001	2002
Live Births..............	6,177	6,890	12.5	13.4	75,366	76,329	75,290	75,167	13.6	13.6	13.6	13.4	13.2
Deaths	3,670	4,879	7.4	9.5	55,732	54,602	54,601	55,636	9.9	10.0	9.8	9.7	9.8
Natural increase	2,507	2,011	5.1	3.9	19,634	21,727	20,689	19,531	3.6	3.6	3.8	3.7	3.4
Marriages	2,601	2,594	5.3	5.1	44,369	43,665	42,086	41,552	7.9	8.0	7.8	7.5	7.3
Dissolutions	1,984	1,946	4.0	3.8	24,583	24,980	23,458	22,593	4.6	4.4	4.5	4.2	4.0
Infant deaths	40	59	6.5	8.6	588	547	555	638	7.6	7.7	7.2	7.4	8.5
Population base...... (in thousands)	...	...	5,637	5,673	...	...	...	...	5,522	5,562	5,595	5,637	5,673

* Rates for live births, deaths, natural increase, marriages and dissolutions are computed on the number per 1,000 estimated population. The infant death rate is based on the number of infant deaths per 1000 live births. Rates are adjusted to account for varying lengths of monthly reporting periods.